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REPORT AND RECOMMENDATIONS

AUG 18 1967

of the

FOURTEENTH MEETING

CURRENT SERIAL RECORDS

of the

AGRICULTURAL ECONOMICS RESEARCH ADVISORY COMMITTEE

Gaithersburg, Maryland December 14-16, 1966

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PREFACE

The fourteenth meeting of the Agricultural Economics Research Advisory Committee was held at the Washingtonian Motel, Gaithersburg, Maryland, December 14-16, 1966. Messrs. Lauren Soth and Norman Collins were unable to attend, all others were present.

At this meeting an experimental approach, namely, an "in-depth" review, was made of one area of research -- economics of marketing. A more limited review was made of other areas of research. It was the consensus of the Committee that it had been a productive experiment. In view of the approach, the format of the Committee's report has been changed to provide background to give the reader a frame of reference for the "in-depth" portion of the report.

With reference to the other research areas, the recommendations contained in the report pertain largely to new and additional research that appeared important to the Committee. These recommendations are for guiding administrators regarding future work, consequently, reference to much of the ongoing work is not included.

The primary basis for this review was the progress reports prepared for the Committee's use by each of the economic research divisions. This source of information was supplemented by oral reports from the following USDA research divisions of the Economic Research Service: Farm Production Economics, Natural Resource Economics, Economic Development, Economic and Statistical Analysis, Marketing Economics, Foreign Development and Trade, and Foreign Regional Analysis; and from the Consumer and Food Economics Division of the Agricultural Research Service; the Farmers Cooperative Service; and the Statistical Reporting Service.

The Chairmanship of the Committee was vacant at the time of the meeting because of the retirement of Mr. Nathan M. Koffsky, former Director of Agricultural Economics, USDA, and a successor had not been appointed.

Dr. M. L. Upchurch, Administrator, Economic Research Service, and Vice Chairman of the Committee, presided during the meeting.

Additional copies of this report may be obtained from Max Hinds, Executive Secretary of the Agricultural Economics Research Advisory Committee, Research Program Development and Evaluation Staff, U. S. Department of Agriculture, Washington, D. C. 20250

GENERAL COMMENTS

During the discussions pertaining to the economic growth and development in our agricultural economy, the Committee made observations and comments about both general and specific economic situations that had become problems which require attention and new and further research. Although they were not developed into formal statements, this approach provided a frame of reference for Committee recommendations and gave rise to a wide range of research recommendations. The discussions included the following:

Worldwide Activities

Because of U. S. involvement in activities throughout the world, the Department of Agriculture is presently engaged in a worldwide economic intelligence service. USDA publications containing information about various countries are used throughout the world. A new problem has been introduced under recent food aid legislation by the requirement to monitor foreign countries' activities to determine whether they are carrying out enough "self-help" measures to maintain their eligibility for food aid.

National Planning and Coordination

The Committee was concerned about where Federal resource planning should be centered to minimize duplication in various Federal agencies. It was pointed out that other Departments of Government have little, if any, research capacity to deal with this matter, hence, increasing demands for information fall on USDA's small staff to service the needs of the Executive Branch of government. A representative of the Bureau of the Budget reported recognition of the problem and indicated the existence of the Water Resources Council which coordinates water planning and development programs of Federal agencies. A program of economic studies in support of comprehensive planning of river basins is carried out under the guidance of the Water Resources Council by the Natural Resource Economics Division in the Economic Research Service. A problem similar to national resources planning occurs in the activity devoted to the noncommercial farm situation. Recent increased national concern has been directed toward rural development and rural poverty with national study groups giving the problem their attention.

It is increasingly apparent that programs and policies needed for commercial agriculture and for the rural countryside differ. Historically, national programs and policies have been directed mainly at commercial agriculture -- with the result that only limited help has been available for the majority of rural people. In recent years national legislation and programs have been developed for rural people generally. Many of these programs are administered by agencies other than the Department of Agriculture. The procedures of overall planning, administration, and coordination become increasingly difficult. The recently established Commission on Rural Poverty has called on the Economic Development Division in the Economic Research Service for much information. Likewise, USDA research is made available to the Office of Economic Opportunity and the Department of Commerce. At the present time USDA is the principal source of information relating to these programs in rural areas. USDA has the background, experience, and a limited staff to deal with these problems but there is need for a national mechanism to plan and coordinate activities that involve several departments and agencies that have programs dealing with rural

problems. The Committee was concerned about USDA's future role in dealing with a "dual agriculture" in view of the activities in other parts of the Federal Government. The recent establishment of the Economic Development Division within the Economic Research Service was an indication of USDA recognition of the noncommercial segment of rural America.

The Committee feels that USDA has excellent research capabilities for dealing with national problems -- but fears that this is not generally known. It was complimentary about the publications to date coming out of the Economic Development Division.

Basic Data

The Committee repeatedly referred to the need for basic data. The areas especially referred to were statistical reporting, economic and statistical analysis, economic development, and foreign regional analysis. The Committee recognized some of the difficulties -- but emphasized that unless basic data are adequate economic planning and decision-making, public and private, are adversely affected. The Committee felt that economic and statistical analysis work was in need of strengthening -- especially in view of the improvements being made and in prospect for basic data collected by the Statistical Reporting Service. The need for additional information on economic development was stressed - especially the need for new and better measures of well-being, community services, and economic growth. In the case of foreign regional analysis -- where the work covers the entire world -- the chief source of information is from the agricultural attaches. There is great need to assist them in improved data collection.

National Model for Production Adjustments

The Committee was interested in the USDA national model of production adjustments. The model is not fully satisfactory yet and the Committee strongly emphasized the need to push on with this kind of activity as a means of evaluating national programs and policies.

Farm Labor

Two countervailing forces -- one economic and the other sociological -- are part of the farm labor problem which in turn is an important part of the overall agricultural situation. Farm labor costs have risen substantially as a production input at the same time that national attention is being given to low-income of farm workers, conditions under which laborers work, their housing, health and education.

National Study Groups

The National Commission on Food Marketing dealt with and answered a number of questions -- but it also highlighted a number of unanswered questions. Within the year, the report of the National Commission on Rural Poverty is expected. The USDA has been heavily involved in research activities pertaining to economic development and has furnished considerable information to the Commission on Rural Poverty and to other agencies of government such as the Office of Economic Opportunity and the Department of Commerce. Likewise, the report of the National Food and Fiber Commission will be out next year. The Committee suggests keeping watch of these reports to see what additional economic research needs may grow out of these studies.

MARKETING ECONOMICS

The Agricultural Economics Research Advisory Committee at its December meeting in 1965 recommended that for the 1966 meeting a prospectus for new orientations and new methods in agricultural marketing research be presented for review.

Review of Current Program

In preparation for the "in-depth" review, the staff of the Marketing Economics Division carefully reviewed its present program as a basis for developing a future program. This staff appraisal indicated four major activity categories:

1. Completing a division-wide project on appraisal of changes in marketing and the significance and implications of these changes. The major findings of this project were reported in a book entitled, "Agricultural Markets in Change." Separate chapters deal with these changes as they relate to innovations, market developments, transportation, and various commodity industries.
2. Involvement with the National Commission on Food Marketing which included advice and counsel as well as conducting several studies and providing a substantial amount of information previously collected as part of the division's research program. Finally, the division staff reviewed the technical reports of the NCFM to determine what implications they might have on the division's future research programs.
3. The development of a half-hour movie in color entitled, "Research Points the Way," which portrays the role of economic research in decision-making in marketing.
4. The regular ongoing research program consisted of the following major work project areas. The number of subarea projects are listed in parentheses:
 - a. Market structure and costs in the marketing of farm products. (8)
 - b. Economics of marketing farm animals and animal products. (17)
 - c. Economics of marketing farm crops. (19)
 - d. Economics of new, expanded, and alternative uses of farm products. (15)
 - e. Evaluation of the effects of merchandising methods and practices on sales of and consumer demand for farm products. (13)
 - f. Distribution programs research. (8)
 - g. Transportation costs and services and their economic effect on agriculture. (10)
 - h. Economics of marketing fibers, grains, and oilseeds. (18)

The Research Goal

In reviewing the ongoing research program based upon prospects for the future referred to in the marketing book and in the report of the Food Commission, it became apparent that the research goal of "improving the efficiency of the marketing system" needed to be updated. The following was developed:

"The goal of economic research in marketing is to evaluate the performance of a changing marketing system -- where the performance refers to the flow of economic results as they affect farmers, marketers, and consumers -- and involves prices, profits, and other dynamics of marketing."

Research Procedure

Ideally, market researchers would like to be able to analyze the huge and complex modern marketing system, as an entity at one time, but even with all our advanced technology and modern research methods, a simultaneous analysis is not possible. There is need to select components of the system for analysis. In reviewing the marketing system in an effort to select components for special study, certain activity areas seemed to emerge that have certain functional overtones but still pertain to fairly well-defined segments of the marketing system. These segments are comprised of activities pertaining to (1) efficiency factors affecting individual marketing firms; (2) the competitive situation of marketing firms which relates them to one another; (3) the bargaining power of farmers; (4) the role of consumers; and (5) the overall effect of such factors as transportation, location of processing, and interregional competition. Within the following brief explanation of those components will be found certain problems for which research might provide answers:

1. Efficiency of Resource Allocation in Marketing Firms

This area refers more to the efficient use of resources within firms, i.e., outputs of marketing services for given inputs. The inward looking or "in-firm" effect of competition is a continuous effort to become more efficient. This effort by individual firms creates a need for new ideas which in turn leads to changes in structure and pricing policy as firms strive to improve their competitive position in a healthy economy. It has led to larger scale enterprises and other developments that bring up problems of competition.

2. The Competitive Situation of Marketing Firms

Competition is generally considered as a regulator of the economy. Although there are numerous forms of competition, price is the common denominator for expressing it in the marketplace. Farmers and businessmen responding to prices choose what products and services to offer and then bid for the resources needed. Performance improves as firms try new ideas and use knowledge gained from research and experience. But misallocation takes place as the system grows and is influenced by economic, social, psychological, legal, and political forces. New problems arise which

require still more knowledge and further readjustments. The problem confronting researchers is to evaluate the role of price under changing conditions such as integration, formula pricing, specification buying, administered prices, forward pricing, and the decline of terminal markets.

3. Bargaining and Income Position of Farmers in Marketing

Market power is the ability to influence prices or other terms of trade in a way favorable to a business firm or group. Unorganized farmers have no positive market power and depend upon competition among buyers to obtain the full value that market conditions justify for their products. Farmer cooperatives for many years have been involved in helping farmers with problems of bargaining power. Also, Federal and State marketing orders and agreements are longstanding examples of instruments conceived and administered to provide certain elements of bargaining power. Farmers have become increasingly concerned as changes have occurred in the marketing system and they want to participate more. Continuing analyses are needed of the instruments and activities that affect the role of farmers in the marketing system.

4. The Role of the Consumer in Marketing

It is frequently said that the consumer is sovereign -- but she is not, as she is often told, all-knowing, all-powerful, and fully-served, sovereign. The level of demand for a commodity is commonly thought to be determined by consumers' scales of preference, consumers' incomes or purchasing power, prices of other commodities, expectations about future prices, and number of buyers. This raises the question of how well the changing marketing system serves the consumer. The fact that consumers are continually changing creates an ever-present problem in this area.

5. Location and Growth Economics

Marketing is an important part of the economic growth of the total economy of the Nation and thus to the welfare of its people. The agricultural-products-marketing system is interconnected with every other segment of the national economy through circular flows of goods and services that are measured in the national income and product accounts. The place where certain activities occur and the extent of those activities are influenced by the kinds of products produced and processed, the technology employed, the channels of trade through which the products move, the size and number of firms, and the trading relationship among firms. Changes in the cost of transportation have probably influenced competition in local markets and between regions as much as changes in total number and size of firms in the Nation.

Organization of the Research Staff

To better meet the new challenge faced in marketing research -- the organization of the staff to carry out the program was reviewed. A new organization comprised of two functional and three commodity branches was intro-

duced. It is believed that greater research coordination will be made possible for giving increased attention to significant marketing problems of the future on a national basis.

All the foregoing was presented to and discussed with the Agricultural Economics Research Advisory Committee. In addition, twelve problem areas that were considered to have pertinent marketing implications for new and additional research were presented for review.

The Committee commended the division staff for its effort in developing and presenting the prospectus and said that it showed evidence of good planning and careful thought in developing criteria and procedures for evaluating research effort. It was stated that the new book, "Agricultural Markets in Change," together with the reports of the National Commission on Food Marketing, represent the most significant work in marketing in a number of years. Also, the staff realignment was commended as an effective step in dealing with broader marketing problems.

Committee Review

The Committee then discussed the program at length. The result of their deliberations falls into three categories: (1) Observations and questions pertaining to marketing changes, (2) guidelines for research in marketing, and (3) an appraisal of the twelve research areas presented for reviews.

1. Observations and Questions pertaining to Marketing Changes

There is a great demand for marketing information of all kinds throughout the Nation by private and public decision-makers.

Knowledge about efficiency and equity affect policy and regulatory decisions.

The marketing system has changed -- in kinds of products manufactured, the technology employed, the channels of trade through which products move, the size and number of firms, and the trading relationship among firms.

The changes that occur in the marketing system are shaped by decisions that are less than perfect because the future is uncertain and the system itself is not fully understood.

The marketplace is necessarily the laboratory. Information needed in marketing research must be obtained from firms engaged in business in contrast with research conducted in a specialized laboratory, experimental plot, or other simulated situation.

There is a shady line between production and marketing and the pricing point for a number of products has moved -- most notably for broilers.

Should marketing performance be measured in terms of producer, firm, or consumer?

Do we really know what consumers want -- for example, large assortment of sizes and packages, additional services such as music while shopping, check cashing, baby sitting?

What is the present role of market news? -- e.g., wool prices no longer set in Boston; livestock prices no longer set in Chicago.

What is the role of grading? Do grades affect consumer preferences? Do they facilitate orderly marketing? -- a number of present programs need more research; the National Commission on Food Marketing recommended more consumer grades, yet within the economy there are group pressures "for" and "against."

2. Guidelines for Research in Marketing

a. Overall Economic Analysis

It was recommended that several outstanding analytical economists be encouraged and supported in developing economic thought and analysis that would provide national leadership in stimulating more sophistication on overall marketing research. This group or others stimulated by them could develop interpretive monographs that provide information about changes over time that are not revealed in publication of statistics.

b. Market Performance

Research on marketing performance should be concerned with producers, marketing firms, and consumers. The research should encompass more than the efficiency of a marketing firm -- it needs to be in the context of broad public policy considerations. More specifically, to concentrate on national and international policy aspects in contrast with time and motion "in-firm" studies. Also, it should add to the sum total of knowledge in lieu of providing a service.

c. Systems Analysis

Integrated operations are making it increasingly hard to identify a "farm" and "firm." There is need to identify the decision-making points. When these are identified it becomes possible to analyze the aspects and relationships. This brings in a new concept that affects research and the formulation of projects involving interdisciplinary approaches. This new concept of "systems analysis" needs to be further developed and expanded for use in marketing research.

3. Marketing Research Problem Areas

Of the twelve problem areas reviewed, the Committee considered the one dealing with food needs of the poor as aimed primarily at evaluating public programs and was in a category of work designed to help guide administrators of public programs. Of the other eleven, the Committee had some concern about how meaningful

it would be to rank them in a priority order because they deal with different components of the marketing system. However, as a guide for allocating research effort it was felt that the first three were considerably more important than those dealing with promotion, trading codes, and regulation, with the rest falling into a middle category:

Measures of Market Performance. The National Commission on Food Marketing has indicated that a problem area in evaluating the marketing system is the lack of data on and effective measures of performance. A critical appraisal should be made of current statistical series to determine how they might be improved and research is needed to develop other measures of performance to help in evaluating the marketing system. Special emphasis should be given to improving statistics on the market basket, price spreads, and the cost and profit components of the marketing bill. Better measures of the average level of retail and wholesale prices, including the effects of retail specials and wholesale discounts need to be developed. In addition, attention needs to be directed to the impact of supporting industries on performance of agricultural markets. For example, packaging and containers account for a large portion of the marketing costs for many products yet little is known about performance in those industries. Special attention should be given to transportation, both as a function of marketing and as a supporting industry. In the long run performance in these supporting industries has a major impact on food marketing costs and prices.

Pricing in an Integrated Market. Economic and technical integration, i.e., the splicing together of several sequential functions, is becoming increasingly significant in modern marketing and production activities. Previously well-defined, physically active markets are being by- or overpassed by the emerging architecture of marketing spans linking producers and consumers. Even where intermediate markets continue to exist and function, economic participation is at a lower level because an increasingly larger proportion of supplies formerly passing through them are siphoned through semiclosed sectors of distribution that are the direct creations of integration. In these semiclosed sectors conventional or open market price determinants are subordinated or vanish and the assignment of value to products at various operational stages becomes highly mechanistic. Important implications are evident. Because certain market prices reported to the public are based upon a decreasing proportion of marketed supplies, there is some question regarding their usefulness to buyers, sellers, and policymakers in decision-making. But something requiring more fundamental consideration is the loss of price as an allocative mechanism in certain economic sectors. Research is needed to determine the impacts of integration on price determination, consequences, and possibilities of forging suitably efficient alternative allocative guidelines within the context of free enterprise.

Concentration in Food Distribution. One of the major policy questions relating to food distribution pertains to the concentration among food marketing firms. There is concern that continued concentration and resulting economic power will lead to distortions in allocation of resources and impairment of the performance of the marketing system. A study is needed to evaluate the effect of concentration on consumer prices, bargaining power, and farm income. Research in this area should be aimed at answering questions such as the effect of vertical integration on market performance, economies associated with private label distribution and implications for market structure and performance, and the types of competitive behavior associated with different levels of concentration with special emphasis on various forms of nonprice competition.

Responses to Changes in Consumer Demand. There are questions about how well the marketing system adapts to changes in consumer demand. This problem area particularly needs to be studied in view of the current revolt of consumers against retail food firms. Moreover, correspondence received by the Department suggests that marketing firms are forcing services and products on consumers which they do not want. Studies are needed to such questions as: What are consumer expectations relative to the marketing system? What is the nature of consumer discontent? What is the extent of consumer choice in selecting services offered by marketing firms? What distinctions can be made between consumer services and which services appear to be economically necessary? Research in this area would provide up-to-date information about the continually changing tastes and preferences of consumers. This information would enable decision-makers in the marketing system to adjust quickly and efficiently to these changes as they occur.

Grading and Differentiating Quality. There is considerable concern about the role of grades and standards in the marketing system. An important concern is how well the marketing system maintains quality and reflects product differences in both industrial and consumer markets at different levels of trade. There is need to integrate conceptual theory and statistical methods into an organized body of knowledge suitable for continuous use in evaluating the adequacy and needs for grades and standards. There is need to compare volume of commodities available by grade with volume of commodities demanded by grade. Also, in the search for more efficient methods, comparative analyses of foreign grading and standardization systems should be made.

Effects of Group Actions on Market Performance. The National Commission on Food Marketing suggested that there is urgent need for group action by farmers to adjust sales more uniformly, to negotiate with buyers, and to protect themselves against trade practices and abuses of market power to which they are otherwise vulnerable. Despite experiences with

market orders and agreements and other forms of group action in farmer purchasing and selling activities, short-run demand forces are not at all understood as yet. The costs and benefits of organizing and administering group actions need to be evaluated, as well as the countereffects of these actions on the marketing system and consumers.

Innovation and Economic Growth. There is need for research on the interrelationship of innovation and economic growth that would be concerned with problems such as the impact of product innovation on resource allocation; product innovation and proliferation of products as a factor influencing marketing costs; adjustments needed in the marketing system to adapt to product innovation; the role of technological requirements, patents, managerial skills, initiative, and resources in stimulating product innovation. Other problems in this area relate to the competitive nature of the market for synthetics and the role of product innovation in meeting this competition.

Also, research in this area should consider growth and development of technology in marketing including the extent to which marketing firms develop new technology and new organizations leading to better and more efficient ways of performing various marketing functions. Answers are needed on such questions as potential innovations in automated selling, organization and efficiencies in emerging retail institutions such as discount houses and convenience stores, and developments among cooperative and regional chains.

Location and Economic Growth. The relative competitive position of producers and marketing firms in each industry is changing constantly. Changes in transportation rates, costs of inputs including labor, available technology, and the organization of industries in various areas have continuous impacts upon the position of each area. Periodic evaluation of the changing competitive position of major areas and of prospective further changes is needed by potential investors in considering facilities for processing and storing the production in new and developing regions.

In locating processing and marketing facilities, major problems are often faced in waste disposal and water availability. The costs of both of these are increasing. In time one or the other may set absolute limits on the prospects for a given industry in an area.

Locational advantages existing in most respects for decades are suddenly being diminished by such things as differential rates of regional economic growth and differential rates of change in transport methods and costs. Some differential impacts can be expected to have effects on locational advantages over extended periods, for example, interregional population shifts or new land resource developments. Other forces having differential impacts such as changes in transportation

rate structures and wage rates may have only transitory effects on locational advantages. A study is needed on the effects of the risks and uncertainties inherent in projections of future locational advantages on rates of investment, structure of the investing firms, adequacy of future processing and marketing facilities.

The Effects of Promotion on Marketing. The role of promotion in the marketing of farm products has long been a problem area. While promotion is generally recognized as a useful tool in distribution, serious questions have been raised concerning its real impact on aggregate demand for agriculturally derived food products, entry of new firms, prices, degree of competition between firms, marketing margins, and price spreads between farmers and consumers. These questions should be subjected to intensive study to clarify the role of promotion as a competitive tool and economic force.

Trading Codes in Agricultural Marketing. Every sector of commerce characterized and identified by ties of common economic interest has a body of unwritten "by-laws" in the form of understandings -- tacit or express, mutually agreed upon or otherwise -- about rules of conduct among participants. This behavioral lore varies considerably from sector to sector affecting the terms of trade, modifying operational efficiency and influencing the balance of equity. Trading methods and practices that have evolved and are followed in marketing agricultural products are continually under heavy attack. Claims of abuse and exploitation are particularly prevalent at the producer and shipping point level. Objective research is needed to ascertain the nature and gravity of the problem to identify desirable remedies for use in industry trading practices.

The Impact of Regulation on the Food Industry. The food industry, in moving its products from producer to consumer, must comply with a myriad of Federal, State, and local regulations. The Food Commission has indicated that these regulations often become barriers to efficient distribution. There is need to evaluate the economic impact of regulation on the food industry. More specifically, a study is needed to investigate such questions as the effect of regulation on price-making and the extent to which intra- and interstate regulations create barriers to trade and the impact of such barriers on performance.

Meeting the Food Needs of the Poor. The current policy of the Department is to develop the most effective means of utilizing its food programs in meeting the food needs of the poor and evaluating the effect of such programs on agriculture and the economy. This situation poses the problem of how to make current and projected programs more effective. Information is needed about the availability, eligibility, criteria, and participation of the needy in these programs. Studies are needed to determine which supplemental foods may be made available to low-income families that have current unfilled needs, the impact of such programs on purchase patterns of consumers, and differential distribution costs in low-income areas.

Also, there is need to study the economics of alternative food nutrient sources and how U. S. farm productive capacity can be best utilized to help meet critical nutrient deficiencies in various areas of the world. Interest in this problem has been heightened as a result of the 1966 Food for Freedom Bill which encourages production of food in the United States to aid in meeting dietary deficiencies in developing countries.

FARM PRODUCTION ECONOMICS

The Committee commended the Administrator of the Economic Research Service for having established a task force on farm labor for the purpose of avoiding duplication and to keep the different persons engaged in research informed of other activities pertaining to labor.

The Role of Labor in Modern Commercial Agriculture

There are two aspects of hired farm labor: one is a cost or input of agricultural production; the second involves the income opportunities, needs, and welfare of laborers themselves. Farm labor costs have become relatively more costly during the last decade than prices of other farm production inputs. Using labor is inefficient and using unskilled labor contributes to a high level of equipment breakdowns in the modern, highly mechanized and fast-moving farm operation. Farmers need help in meeting their labor problems. Studies are needed on sources of labor, training, availability, quality, capacity, and personnel management. Likewise, studies are needed dealing with the human factor including wage rates, working conditions, housing, continuity of work, skills possessed and needed, and job status. Exemption of farm workers from social legislation will eventually be terminated as was exemption from minimum wages by the recent Congress. This action reflects present day attitudes with respect to opportunities for individuals to achieve their maximum potential and their recognition as a component of society with individual dignity. The "hired man" and "share-cropper" of yesteryear may be passing from the scene to be replaced by competent managers and workmen with new attitudes, skills, and responsibility. This could lead to a restructuring of the whole countryside with new concepts with respect to training, personnel management, working conditions, living conditions, and human relations between employer and employee. (See also recommendation pertaining to farm labor, page 13.)

General Adjustments in Agricultural Policies and Programs

Increased research effort is needed on the economic analysis of current and alternative agricultural policies and programs. Special attention is needed on nonmidwest agriculture wherever it occurs.

The Changing Structure of Agriculture

There is a basic need to understand the interrelated developments in different areas of the agribusiness complex viewed as a food and fiber system. Farm output is increasingly dependent upon the suppliers of production inputs and more responsive to the decisions of market outlets. Research is needed to appraise the possible future effect of this increasing interdependency upon the number, size, and geographic distribution of farms, on production efficiency and operator earnings, and on labor inputs and employment

opportunities. Studies are especially needed on the role of farm supply and service sectors in the use of new production technology. Examples of specific structural changes that need study include the influences of new feeding techniques and the influences of packer feeding on prices and structure of the livestock feeding industry.

Capital Requirements, Sources, and Costs

Increasing capital requirements have caused farmers to be more concerned about financial management. Wise management includes a combination of strategies. Research is needed to develop guidelines to help determine which resource inputs will be owned outright, purchased via mortgage or other credit, rented, or custom hired; scheduling the replacement of depreciable capital items; the use of reserves and insurance; the application of purchased inputs at profitable levels; and the scheduling of income flows to cover operating expenses and debt repayments, when due. With respect to a research approach, there appears to be merit in differentiating between "ownership rights" and "user rights" of production resources. In a number of agricultural regions farmers are already organizing viable economic production units in which they do not plan on personal ownership of all production resources.

Farm Costs and Returns

With respect to information developed on costs and returns by major types of farms, consideration needs to be given to coordination of these data into a "systems approach" as a part of national production models in lieu of the historical approach now used.

ECONOMIC DEVELOPMENT

The problems surrounding poverty in rural areas are of major importance and the Committee notes with approval the concern and attention given to them. We sense a great need for basic data to support interpretation and analyses in this area. The demands for program development and implementation probably will continue to increase. Obvious, therefore, is the need for basic data. The continuing need for the development of basic data may best be met by constructing such new series as indexes of well-being, levels and adequacy of community facilities, and economic growth rates by rural area.

Farm Labor

Study needs to be made of the general farm labor situation to provide benchmark data for continuing research in this area including surveys of the needs for regular workers, skills required, wage and other incentives that would be required to fill job vacancies. Study should be made of labor-management relations as they relate to the specifics of agricultural employment. The impact of governmental programs and legislation on labor supply, demand, and working conditions needs continuing investigation. Areas of critical labor problems should be given special attention. (See also recommendation pertaining to farm labor, page 12.)

NATURAL RESOURCE ECONOMICS

Land Tenure

Increased land values have had an important effect on land tenure and opportunities for entering farming. Research is needed to evaluate alternative land tenure arrangements. This problem needs more than the collection of data. An analysis is needed to indicate the impact of different tenure arrangements. Prices keep some people from becoming owners. Studies are needed to determine whether there are better ways of handling the transfer of farms from generation to generation and to evaluate renting, part-time farming, managing, and financial recovery of debt.

Water Resources Planning

Improved methods of water resources planning with emphasis on methodologies adaptable for general use are urgently needed. Research is needed to (1) develop new planning techniques, (2) refine benefit-cost appraisals of the feasibility of alternative means for solving local, State, and regional water management problems, and (3) develop economic information needed for equitable allocations of water resource development costs to farmers and other agricultural interests.

Urban Growth in Rural Areas

The Committee recognizes the importance of good planning, therefore, repeats last year's recommendation that research on air and water pollution be expanded and that studies be conducted on the impacts of urban growth and nonagricultural uses of land in rural areas.

Economic Adjustments to New Waste Control Standards

Agriculture is facing some potentially serious problems of adjustment in meeting changing concepts of environmental quality. Local ordinances and court orders have caused abrupt cessation of agricultural operations in some areas. Some pesticides have been banned. Recent legislation has provided broad Federal authority to regulate water pollution which has great significance for agricultural operations. These are examples of decisions on quality standards which are being made, often with only limited knowledge of the economic implications involved. Research is needed to develop information on economic implications of decisions made, on alternative means of regulation, and on alternative possibilities for the affected firms.

ECONOMIC AND STATISTICAL ANALYSIS

Because the Committee felt strongly about the need for strengthening work in this area, it stated for the third time a recommendation first made in 1964:

"The reports of this division concerned with supply, demand and price analysis, projections of economic trends and farm income are basic tools for other researchers in the Department and elsewhere. They are the basis for the commodity outlook work, farm policy planning, and farm program appraisal. Yet all these reports are no better than the fundamental data and their analysis. Therefore, we recommend high priority on improvement of the work in these areas."

Economic Factors affecting the Feed-Livestock Economy

Operation of government programs for a number of commodities, including feed grains, causes concern as to the relationship between supported commodities and those which do not have price supports such as livestock. Better and more up-to-date information on these interrelationships are needed to aid government officials and others in policy formulation for achieving and maintaining a proper balance and growth rate in the feed-livestock segments and for maintaining an acceptable level of prices along with a reasonable degree of price stability to both producers and consumers.

Supply-Demand Relationships for Wheat

Supply and demand studies have generally analyzed wheat as a single commodity. However, since supply and demand factors do not affect different classes of wheat in the same manner separate analyses are needed for the major classes of wheat. A comprehensive study would require the development of new regional series on production, marketing and utilization for the major classes of wheat. Separate supply-demand relationships for each class of wheat and the nature and utilization within each class are important, particularly when wheat and feed grains are on a competitive basis as they are under the current Wheat and Feed Grain Programs.

Supply-Demand Study for Fruit

More information is needed on supply, price and consumption interrelationships for fruit in order to provide guides to the fruit industry that will promote orderly marketing and maximize long-term returns. This is particularly essential in the cases of important fruits such as apples and oranges, the production of which has been increasing faster than population growth. New research is needed to determine more accurately the probable changes in production of each fruit in relation to probable outlets (fresh, processing; foreign, domestic) and the demand and price relationships among the several outlets for each fruit. Special attention should be given to study of competitive aspects existing among different fruits including the impact of synthetic fruit products on the production and marketing of natural fruit products.

Forecasting Models for Livestock and Meat

Important structural changes have occurred in production of livestock in recent years and, at the same time, there have been shifts in demand patterns for meat. These changes require re-evaluation of existing studies and, in some cases, development of new price and supply forecasting models.

Intermediate and Longer Term Outlook for Commodities

Additional work is needed to provide a sounder basis for evaluating supply and demand prospects in the years ahead. Increasing specialization and large investment in specialized equipment require greater emphasis on commodity outlook for intermediate and longer term periods. Improved estimates are needed indicating the resources needed in important commodity areas, for various levels of production, based on estimated domestic consumption levels and possible levels of food assistance programs. Need for such outlook information is particularly acute for the feed-livestock complex, dairy products, food grains, and fruits.

Farm Income

More research is needed on farm income by farm size and the distribution of farm income because of the value of such data in appraising policies related to farm income supports. It is recommended that the fullest possible use be made of the Probability Enumerative Survey conducted by the Statistical Reporting Service in gathering more data on farm income, farm inputs, use of farm labor, and related information.

FARMER COOPERATIVES

Annual Statistics on Cooperatives

Each year statistics are compiled on cooperatives which include the number of cooperative associations, the number of members, and the volume of business handled. It is recommended that the collection and release of this information be accelerated.

Organization and Management of Cooperatives

In order to meet the challenges of the future cooperatives will need to be organized and managed to deal with changed conditions growing out of integration, changes in technology, changing transportation rates, and the generally increasing economic concentration in all segments of the economy. The cooperative method of organization provides an opportunity for many new services. The various rural needs suggest the potential for multi-purpose cooperatives. Cooperatives have potentially greater opportunities than other business enterprises to do forward planning because of their inherently close-knit relationships with their patrons who, in turn, have a member-owner interest in the affairs of their cooperatives. The need for achieving countervailing economic power will require development of large-scale cooperatives.

So that the cooperatives of the future may fulfill their role in the economy, a number of areas will need research effort. Research will be needed on organizational adjustments as cooperatives increase in size and number of activities; this will include internal organizational structure, type of overall organization, type of activities, methods and procedures for long-range planning, and procedures for achieving equal treatment of all classes of members and still distribute the burdens and benefits equitably.

Small producers in low-income farming areas must pay high assembly, transportation, and distributing costs on less-than-carload shipments of farm products and supplies. Cooperative transportation and shipping associations presently operating in the Midwest and western parts of the country have demonstrated that transportation and handling costs can be reduced and services improved for producers utilizing such associations. Studies are needed in low-income areas in rural America to determine how such associations can contribute to lowering transportation and handling costs and bring about orderly marketing of farm products by small producers.

Marketing Cooperatives

Research is needed to help cooperatives improve their operating and handling methods and sales, distribution, and pricing methods. Also, studies are needed on the costs and benefits of on-farm versus elevator storage of grain and to assist cooperative oil mills, compresses, and cotton marketing associations make necessary adjustments in view of the anticipated decline in cotton production; to evaluate the effects of changes in market structure of integrated livestock marketing programs; to determine the benefits growers of fruit, vegetables, and rice might realize by cooperative processing and marketing of their products and by consolidation of operations of present cooperatives handling these commodities; to evaluate the potential for coordinated marketing by cooperatives handling dairy products and eggs; and combinations of production credit and marketing services for poultry producers.

Research is needed on various pooling and other grower payment methods that will (1) evaluate their effectiveness under differing price and supply conditions for products of varying perishability, and (2) assist in formulating pooling systems designed to equitably distribute proceeds from buyers in multistate areas back to producers also widely located over large areas.

Purchasing Cooperatives

In a specialized, commercial, large-scale agriculture there is a potential need for various types of farm services that can be provided through cooperatives. These services may be provided by specialized cooperatives or by additional service of existing cooperatives. In certain areas of the U. S. little or no development of either farm supply or farm service cooperatives has taken place. Research is needed to provide information for rational cooperative development in geographic areas of high potential and low cooperative activity and to establish guidelines for developing new cooperative services. Initial research should provide the current status of development for specific services and specific commodities and identify those areas where additional cooperative effort should be undertaken.

STATISTICAL REPORTING

The Committee was pleased to have had a briefing on some of the new developments in statistical reporting. In the briefing it was pointed out that this was the 100th anniversary of agricultural reporting and that the prime attributes of statistical data for which support is essential are accuracy, timeliness, and content. Historically, support for more statistics has been easier to obtain than support for research to improve methods and the accuracy of estimates. In 1951 forecasts of cotton production varied by an unusual amount from final estimates and this attracted considerable public and congressional concern with the results that in 1954 some funds for research were appropriated. In 1957 the Statistical Reporting Service presented to Congress a four-part long-range program for the improvement of agricultural statistics. A brief description of Part I, which is nearing completion, was presented to the Committee. Part I consists of two major phases: (1) two national surveys, one in June and one in December, based upon probability area sampling, and (2) surveys involving measurement of plant characteristics for forecasting and estimating yields of wheat, corn,

cotton, and soybeans. The Committee was favorably impressed with the objectivity of the techniques involved. For example, the precise use of aerial photos in determining the exact averages of crops and livestock inventory numbers in the enumerative survey approach to gather raw data to make estimates is a highly objective method of collecting information on crop acreages.

The Committee expressed concern over the unfavorable image and criticism for this work that has been spread around the country and recommended that the true story be told to the press, to processors, and farmers and that a technical bulletin be prepared to tell users of statistics about the program.

The Committee favors continuing the studies on consumer preference and quality discrimination. The program now being considered for future studies would pertain to cotton and wool products, vegetables, floriculture and ornamental horticulture, wheat products, consumer reactions to new food processes and consumer opinions of various food products under both laboratory and home conditions.

CONSUMER AND FOOD ECONOMICS

The Committee recommended continuation and expansion of Family Economics Review. It endorsed the work underway on the analysis of data from the 1965-66 nationwide food consumption surveys. This should be followed by a series of commodity-oriented research studies for use in consumer education. Further research on the food consumption patterns by income groups for particular population groups, including Negro and white, is needed to supplement the nationwide survey. Also, a study is needed on food fads and consumption of dietary foods as a basis for consumer and nutrition education programs.

Use of Consumer Credit

More information on the use of credit by low- and middle-income rural families is needed to develop sound and effective counseling materials. Currently, only limited data are available on family expenditures involving the use of credit and almost no information on the family's approach to the use of credit -- their knowledge of the interest rate they are paying, the extent to which they shop for the best interest rate and their attitudes toward the use of credit. There is some indication that families who use credit wisely are able to accumulate more equipment than those who save and pay cash. This should be further investigated as a possible approach to teaching the use of credit in rural areas.

FOREIGN DEVELOPMENT AND TRADE

Effects of Foreign Economic Development on Agriculture

In many less developed countries agricultural production lags behind the growing demands. Overall economic development depends heavily upon improved economic performance of agriculture. Research is needed to (1) develop improved economic models to identify the interrelationships between agricultural and total economic growth, and (2) measure empirically the contributions of the agricultural sector to national economic growth in representative country situations so that appropriate policies and programs can be developed.

Research is needed to determine why improved farm practices are not used more widely in less developed countries. With this type of information the root causes of low agricultural output and productivity can be more directly attacked.

Adequate information is not now available on the channels of food movement from farm to consumer in a number of foreign countries. Research is needed to analyze the marketing system so that improvements can be made.

New food aid legislation requires that recipient countries indicate the "self-help" measures they are taking to improve production, storage, and distribution of agricultural commodities. Items to be considered include such things as development of the agricultural chemical, farm machinery and equipment, transportation and other necessary industries; training and instructing farmers in agricultural methods and techniques; establishing and maintaining government policies to insure adequate incentives to producers; and establishing and expanding institutions for adaptive agricultural research. Information concerning the "self-help" efforts that now are being made or could be made in the future to accelerate agricultural development needs to be compiled and analyzed for countries that may request food aid assistance.

Appraisal of Food Aid Programs and Market Development

The recent reductions in stocks together with increases in foreign demand and the food needs of the developing countries suggest the need for reappraising domestic farm programs, the desirable level of carryover stocks, and domestic and export pricing policies. Studies should be undertaken to determine the impact of alternative domestic price support and production policies on domestic and foreign commercial markets as well as the implications of U. S. Food for Peace commitments on the use of U. S. agricultural productive capacity and farm incomes. Studies to appraise and analyze farm, wholesale, and retail commodity prices in principal importing countries in relation to export pricing policies of the exporting countries are especially needed.

Studies should be undertaken in selected countries to determine the effects of Food for Peace shipments on the distribution of domestically produced products and to measure wastes and losses in storage and distribution and means of reducing them.

With increased interest in the improvement of nutrition in future Food for Peace programs there is a need to analyze the relative costs of alternative products as sources of carbohydrates, fats, and proteins. Relative costs of high protein products, including protein concentrates and isolates, need to be determined. Also, synthetic protein and other nutritive supplements should be studied.

International Monetary and Trade Research

Research is needed on the effects of regional associations such as Latin American and European integration. Consideration needs to be given to potential effects of Latin American integration on income growth and associated increased demands for agricultural products as well as the possible trade diversion effects of the trade systems being developed. In connection with European integration, expansion of research on developments in the European Free Trade Area is important. Research needs to be developed on bilateral arrangements developing among member countries and potential supply developments. Possible membership of these countries with the EEC remains a potential influence on U. S. agricultural exports.

The progressive transition from sales for foreign currencies to long-term dollar credit sales, mandatory under the new Food for Peace legislation, will have important effects in developing countries. An evaluation of the impact of the transition to long-term dollar sales on such countries as India, Pakistan, Congo, and Brazil should be undertaken. Consideration will need to be given to the effects of the transition upon the monetary developments, government budgets, resources for economic development, and efforts to increase production of food of the recipient countries.

Trade Statistics and Analysis

Exports of processed agricultural products have about doubled since 1950. Principal processed commodities accounting for this increase were processed fruit and vegetable products, oil products, and protein meal. There has been a considerable increase in competition for semifinished and finished processed agricultural products in the major industrial markets. At the same time, the developing nations are not sharing in the total growth of world exports because of their reliance on exports for the most part of agricultural raw products such as cotton, hard fibers, rubber, coffee beans, cocoa, and animal roughages. Therefore, there is need for analysis of the magnitude and trade trends of processed and nonprocessed agricultural products. Such analysis would be beneficial to the U. S. in formulating trade policies and also would be valuable to other governments and international agencies interested in increasing world agricultural trade.

U. S. agricultural trade is of major importance to the U. S. balance-of-payments position. Congressional requests have been made for an annual report containing analytical and statistical presentation of such items as agricultural balance of trade, export destinations, and commodity composition of trade. Present methods of compilation involve much handwork and outmoded methods with the result that the report is untimely. There is need to automate the compilation and printing of this report so that it might be released three to four months after the close of the trading periods.

FOREIGN REGIONAL ANALYSIS

Foreign Situation and Outlook Analysis

The Department has recently become involved in the planning of production to meet domestic and foreign needs by means of a National Food Budget. In order to provide the best possible information for those responsible for such planning, an evaluation is needed of our situation and outlook analysis for foreign areas. This evaluation should include the system of information collection, processing, and dissemination.

Exports of Agricultural Products

Research is needed to develop more reliable forecasts of U. S. exports of agricultural products. The research should include an analysis of the sensitivity of estimates, an objective basis for judgment-estimates, develop procedures of combining estimates, develop means of communicating estimates, and study the relationship of forecasts to decisions pertaining to size of stocks and acreage allotments.

